

# EUROPEAN PATENT OFFICE

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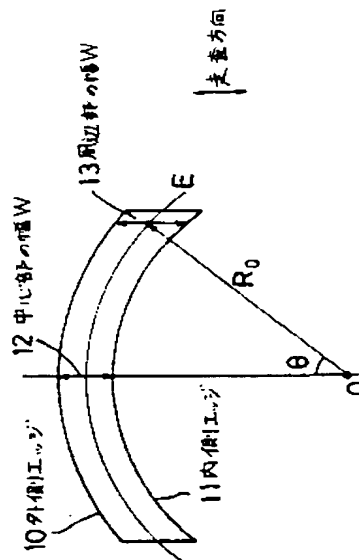
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TITLE : X-RAY PROJECTION ALIGNER



ABSTRACT : PURPOSE: To improve the dimensional accuracy of an exposure pattern by defining the width of an arc shaped slit in a scanning direction such that the amount of exposure when an exposed area is scanned is kept unchanged on a sample surface.

CONSTITUTION: The width of an opening formed through a circular-arc slit of an X-ray projection aligner in a scanning direction is set to a predetermined one. The radial width of the arc at an angle  $\theta$  is set to be  $W \cos \theta$  by narrowing an outer edge 10 and an inner edge 11 by the same quantity around E. Accordingly, the width in the scanning direction is W, the same is the width at the central portion. Thus, illumination of the slit opening portion by uniform intensity X-ray assures uniform exposure intensity upon scanning. Therefore, exposure intensity when a mask and a wafer are rendered to synchronous scanning can be made uniform by correcting the width of the arc slit, so that the dimensional accuracy of an exposed pattern can be improved.

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